Indiana Department of Transportation

SR 37 EA/CORRIDOR STUDY
from Noblesville to Marion

PURPOSE & NEED AND ALTERNATIVES SUMMARY

ENGINEERS
PLANNERS
ECONOMISTS
Wilbur Smith Associates

WOOLPERT

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PURPOSE AND NEED

The Indiana Department of Transportation (INDOT), in cooperation with the Federal Highway Administration (FHWA), has undertaken this Purpose and Need Statement for the SR 37 Environmental Assessment / Corridor Study in accordance with the following:

- National Environmental Policy Act (NEPA) of 1969
- INDOT's Streamlined Environmental Impact Statement (EIS) Procedures (approved July 6, 2001)
- FHWA Indiana Division Section 106 (historic) Consultation Procedures (approved August 7, 2001)

This Purpose and Need Statement defines the "need" (deficiencies) for a proposed action by addressing the following questions:

- Why are real or perceived deficiencies a problem and what facts support the existence of the problem?
- Why is the problem occurring here and not somewhere else, and why are we only addressing the problem here?
- Why does the problem need to be addressed now, and what could happen if the problem is not addressed now?

This document then defines a broad corrective action ("purpose") for each associated "need" by asking:

- What are the requirements?
- When will success be declared?
- What is the best measurement for success?

The SR 37 EA/ Corridor Study focuses on the segment of SR 37 from Noblesville to Marion in Hamilton, Tipton, Madison, and Grant Counties. The intersection of SR 37 with SR 32/38 in Noblesville and SR 9 in Marion have been designated as the southern and northern termini, respectively. Each of these intersection routes represent the most significant arterials connected to SR 37 in the vicinities of the two terminus cities. This study will evaluate several alternatives for the corridor, including several highway types, relocated alignments, and the "No-Build" alternative. The result of this EA / Corridor Study may identify multiple projects that satisfy the purpose and need of the project.

PROJECT OBJECTIVES

Based on the identified needs for this corridor improvement study, the purpose of the SR 37 project is to:

- Satisfy the Congressional mandate.
- Reduce the crash frequency (risk).
- Provide a level of service C or better and provide system continuity within the project limits for forecasted traffic volumes for the year 2025.

PROJECT DISCUSSION

History

Since 1990, four independent studies have been performed on various portions of the corridor by several different agencies, with varying recommendations for improvements. The State of Indiana (INDOT) began examining the SR 37 corridor in 1990, after a request from several state representatives and senators. Since that time, three other studies have been conducted on portions of this corridor using different criteria and methods. This study will compile the results of the past studies by including each of the previous recommendations as a separate alternative. Each of these alternatives will be evaluated on its ability to meet the 5 basic criteria being utilized for the SR 37 EA / Corridor Study.

Crash Analysis

In order to obtain accurate crash data results and identify problem areas, the corridor was broken up into 6 segments based on noticeable changes in Facility Type (i.e. two-lane or four-lane), AADT, and adjacent land use / demographics.

The property damage only crash rates are below the statewide average throughout the entire corridor, however, the fatal and injury crash rates exceed the statewide average in various portions of the corridor. Additionally, the current four-lane portion of SR 37 near Noblesville exhibits a much lower property damage only crash rate than the adjacent two-lane facility.

The fatal crash rates for three of the two-lane segments exceed the statewide average, but no specific trends such as collision type, location, or vehicle action are apparent.

Half of the segments also exceed the statewide average for injury crash rates. All of these segments are located in or near the Corporate City Limits of Noblesville, Elwood, or Marion, where major crossroads (potential conflicting vehicular movements) are more prominent.

Capacity Analysis

SR 37 south of 191st Street, where it is 4-lanes, performed satisfactorily under existing (2001) traffic conditions with levels of service (LOS) "C" or above. However, north of 191st Street, where SR 37 is only 2 lanes, the corridor experienced unsatisfactory LOS, below "C". Between 191st Street and SR 213, the overall LOS was essentially "D" and "E".

North of SR 213, the LOS's improve to "C" until the Madison/Hamilton County line, where the LOS's begin to deteriorate to "D" and "E" northward to Elwood. In the areas near CR 1000 North and SR 28, the LOS's decline to unsatisfactory levels due high traffic volumes during the AM and PM peak periods which correspond to the commuting and working environment of the Elwood area. In addition, roadway segments just south of SR 28 were analyzed with the free-flow speed estimated to be 50 miles per hour. This is lower than the free flow speed of 60 mph used for the majority of the SR 37 corridor, due to the reduced posted speed through Elwood.

North of the SR 28 intersection in Elwood, the LOS improve significantly to "A" and "B." This is basically due to the relatively low daily and peak period traffic volumes encountered.

The existing SR 37 roadway network with 2025 traffic demand has results that pattern after the 2001 scenario but with lower levels of service throughout the corridor. Favorable LOS ("C" or higher) were found in the south portion of the corridor where SR 37 is presently 4-laned and in segments north of SR 28 from Elwood to Marion. Overall, the 2025 LOS basically deteriorates to the next lower service level found in the 2001 scenario, especially south of SR 28.

Based on the 2001 and 2025 traffic scenarios, capacity improvements to SR 37 from 191st Street to SR 28 and from 50th Street to SR 9 in Marion would be needed to improve SR 37's travel efficiency. This could include a range of possibilities through these segments, from standard two-lane cross section elements with enhanced passing opportunity to added through travel lanes.

EVALUATION CRITERIA

The SR 37 EA/Corridor Study examines the condition of the existing facility, and appropriate measures and timing to address any deficiencies (needs). The study will look at a variety of route options and highway type alternatives and will present findings on whether or not any of the corridor investments are feasible. Each alternative will be evaluated based on its ability to meet the following evaluation criteria:

1. Ability to meet the Purpose and Need defined for the study corridor.

2. Need Based on Traffic—Do any of the highway options need to be built to handle current and forecasted traffic volumes, and if the latter applies, what time frame is reasonable?

3. Engineering and Cost —Are there any unusual engineering difficulties, and what would each alternative improvement cost the agency?

4. Environmental —Does the alternative have any fatal flaws, and is mitigation for environmental impacts available?

5. Travel Efficiency —Will the highway improvements cause sufficient road user benefits to warrant the investment?

Using the above criteria, the alternatives will be screened and refined. Those alternatives meeting the above criteria during the evaluation criteria process will be carried on to recommendation.

PRELIMINARY ALTERNATIVES

A set of preliminary alternatives has been developed and is presented in **Figures 2.2.1 through 2.2.7 (Appendix of Figures)**. The alternatives have been compiled based on discussions with INDOT and FHWA staff and local MPO's, previous study results, and meetings with the Stakeholders Committee.

An important part of any transportation corridor study is exploring transit alternatives such as light rail and/or bus services. However, a corridor must meet certain criteria for a transit system to be a viable and cost effective alternative. Chapter 30 of the Highway Capacity Manual 2000 states that an area must first be found to be transit-supportive in order for it to become a viable alternative. More specifically, a transportation analysis zone (TAZ) must have a household density of 3 units/gross acre or a job density of 4 jobs/gross acre to be considered transit-supportive. Based on these requirements the three major communities along SR 37 (Noblesville, Elwood, and Marion) are not transit-supportive, and populations based on forecasted growth trends do not appear to support such a transportation mode the future. Therefore, transit alternatives will not be considered viable alternatives as a part of the SR 37 EA/Corridor Study.

- Alternative No. 1 - "No-Build" Alternative: Existing plus programmed / committed improvements.

- Alternative No. 2 - Improved 2-Lane Highway from Noblesville to Marion on existing alignment.

- Alternative No. 3 - 4-Lane Divided Expressway (non-freeway) from Noblesville to Marion with the options of relocated alignments around Strawtown and/or Elwood

- Alternative No. 4 - 4-Lane Freeway from Noblesville to Marion with the options of relocated alignments around Strawtown and/or Elwood.

- Alternative No. 5 - 4-Lane Divided Expressway (non-freeway) to Elwood, 2-Lane Improved from Elwood to Marion with the options of relocated alignments around Strawtown and/or Elwood.

- Alternative No. 6 - 4-Lane Divided Highway to 213, "No-Build" north to Marion.

- Alternative No. 7 - Realignment from SR 13 south to I-69

APPENDIX OF FIGURES

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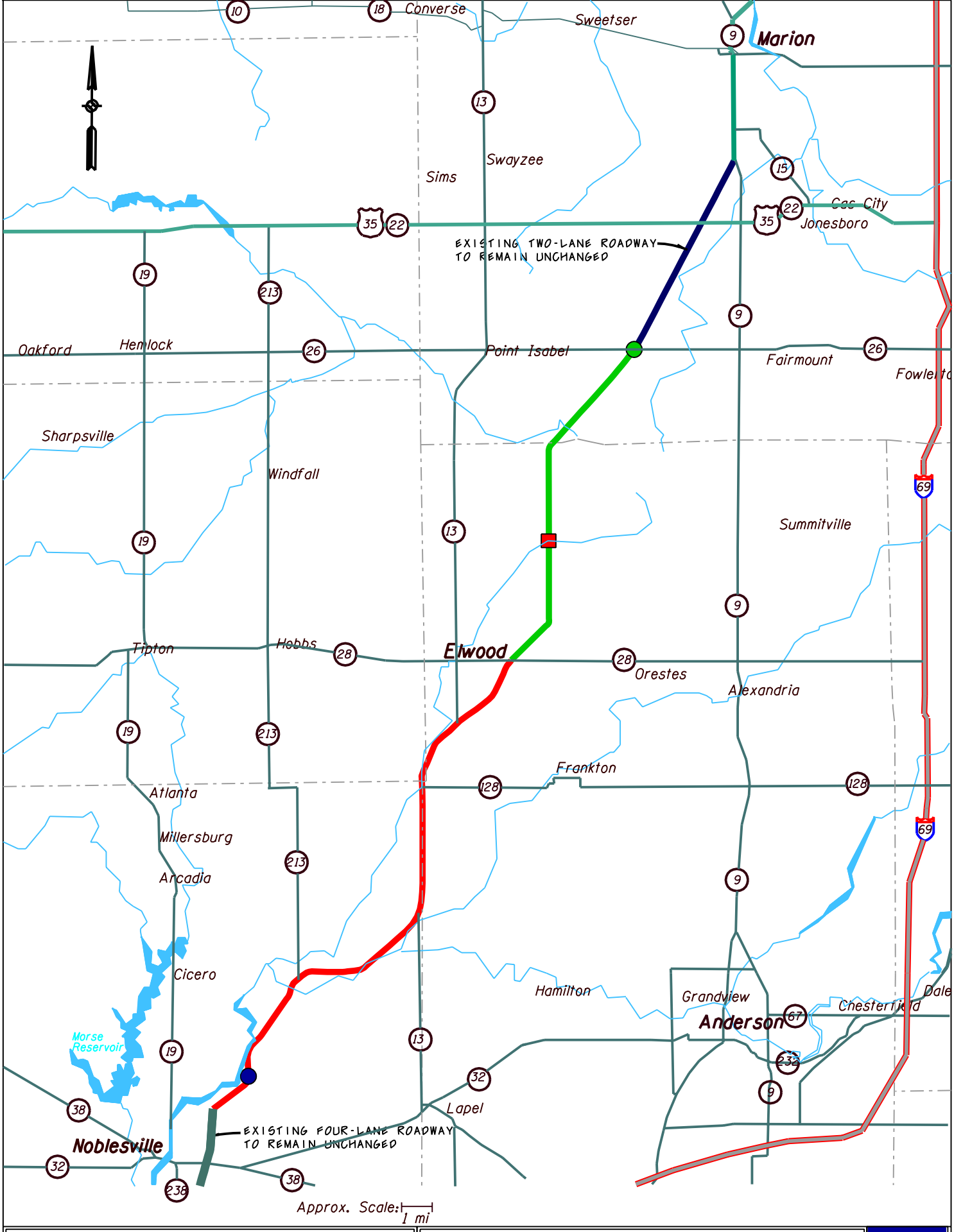

SR 37 EA / Corridor Study

Figure 2.2.1

Alternative No. 1 - "No-Build"

- 2006 PAVEMENT REHABILITATION
- 2004 PAVEMENT REHABILITATION & SIGN MODERNIZATION
- 2004 FLASHERS MODERNIZATION
- 2002 INTERSECTION WIDENING AND SIGNAL
- 2004 BRIDGE REHABILITATION & REPAIR

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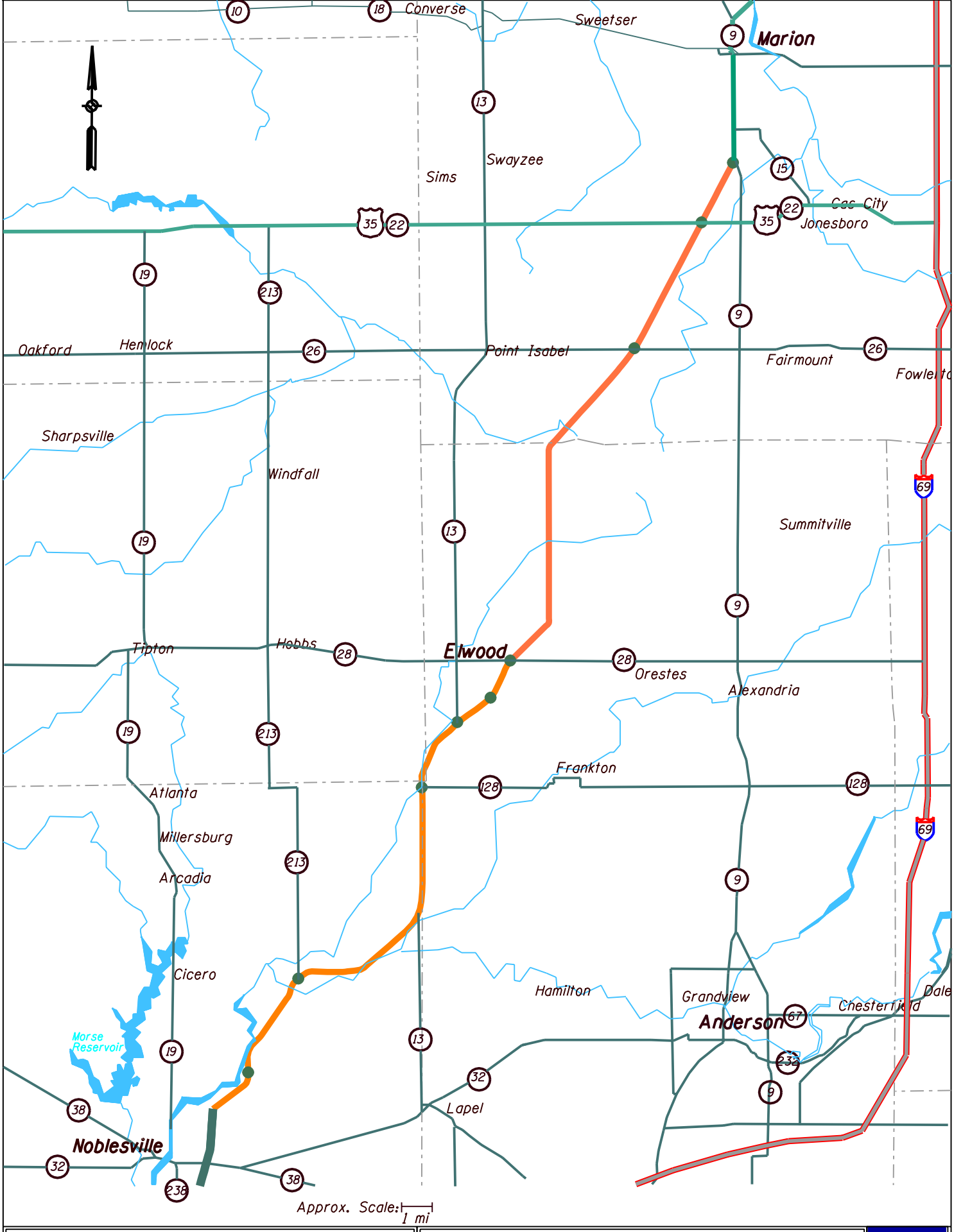

SR 37 EA / Corridor Study

Figure 2.2.2
Alternative No. 2

IMPROVED 2-LANE HIGHWAY

POTENTIAL PASSING LANES & TWO-WAY LEFT TURN LANES

POTENTIAL INTERSECTION IMPROVEMENTS

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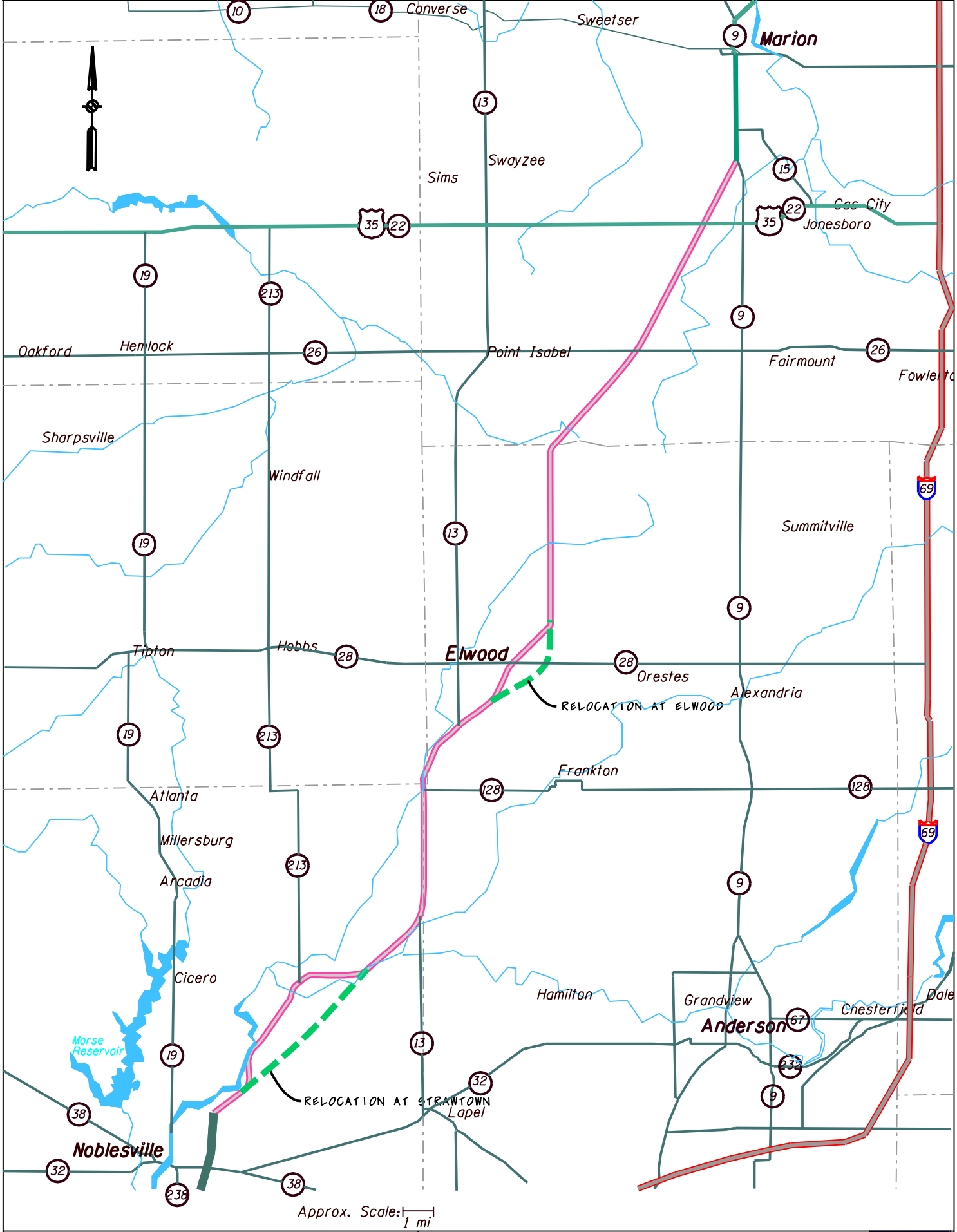

SR 37 EA / Corridor Study

Figure 2.2.3
Alternative No. 3

4-LANE EXPRESSWAY *NON-FREEWAY*
PARTIAL LIMITED ACCESS, AT-GRADE INTERSECTIONS
POTENTIAL RELOCATIONS

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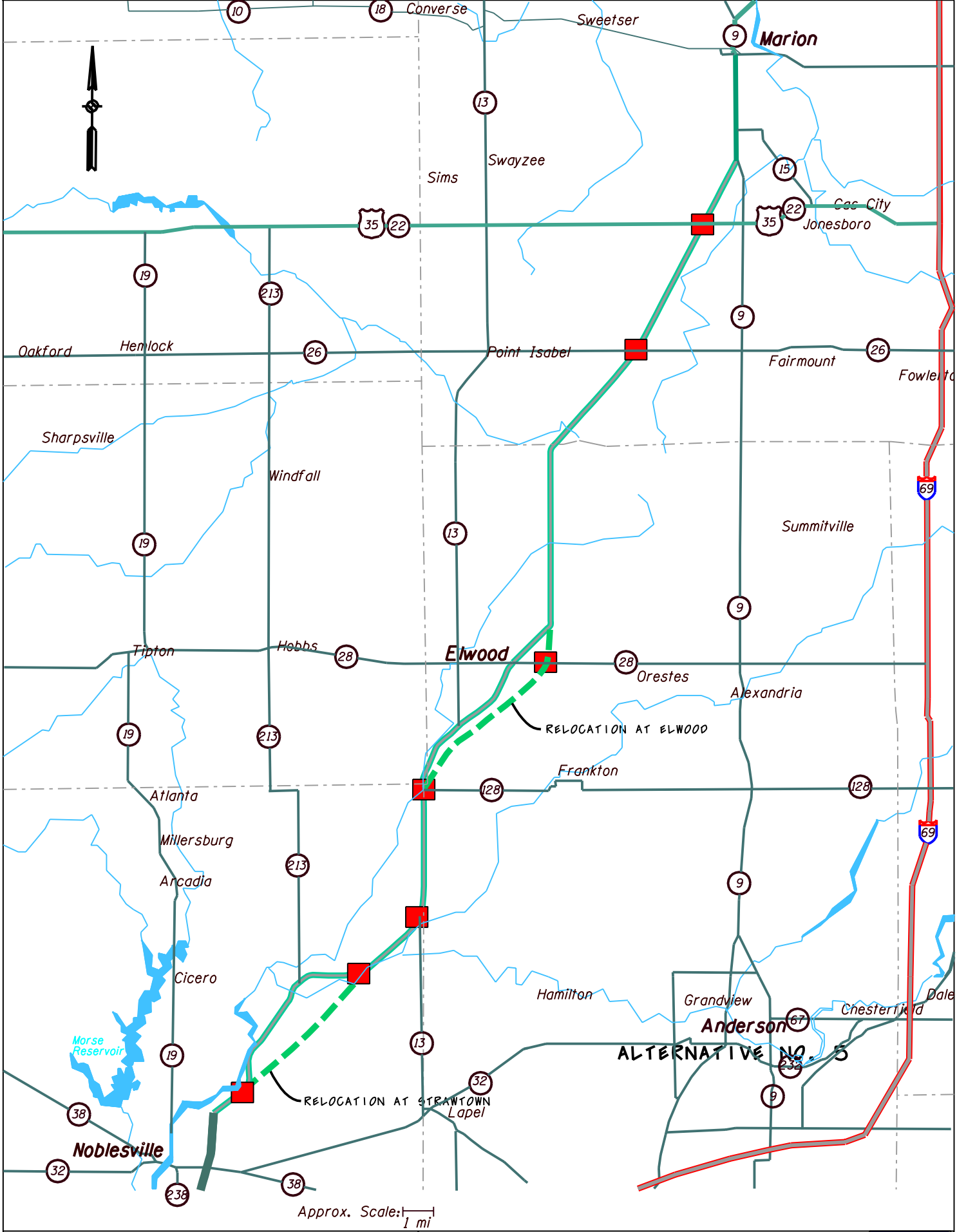

SR 37 EA / Corridor Study

Figure 2.2.4
Alternative No. 4

4-LANE FREEWAY
FULLY LIMITED ACCESS, OVER/UNDERPASSES, INTERCHANGES

POTENTIAL RELOCATIONS

POSSIBLE INTERCHANGE

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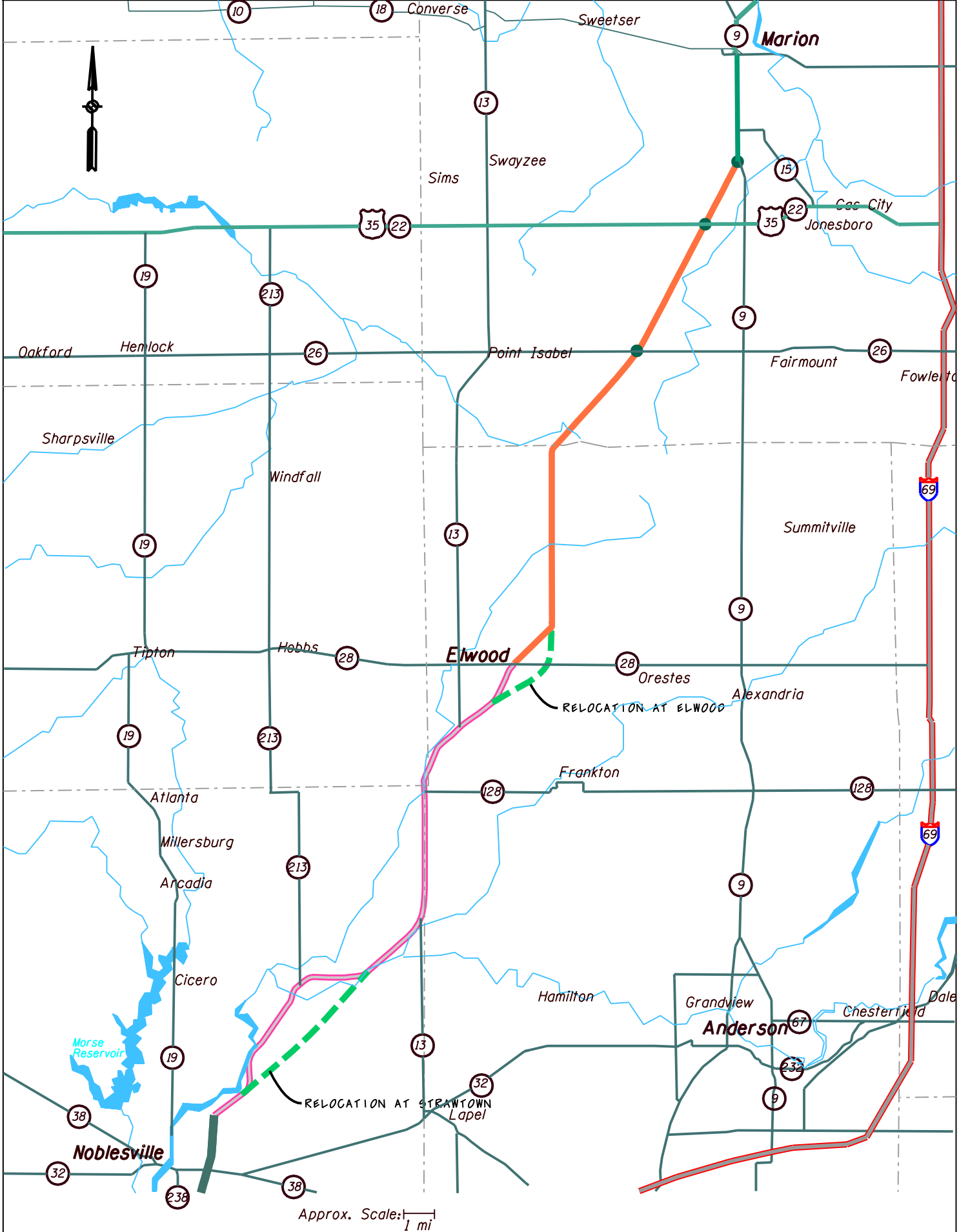

SR 37 EA / Corridor Study

Figure 2.2.5
Alternative No. 5

4-LANE DIVIDED EXPRESSWAY *NON-FREEWAY*
IMPROVED 2-LANE HIGHWAY
POTENTIAL RELOCATIONS
POTENTIAL INTERSECTION IMPROVEMENTS

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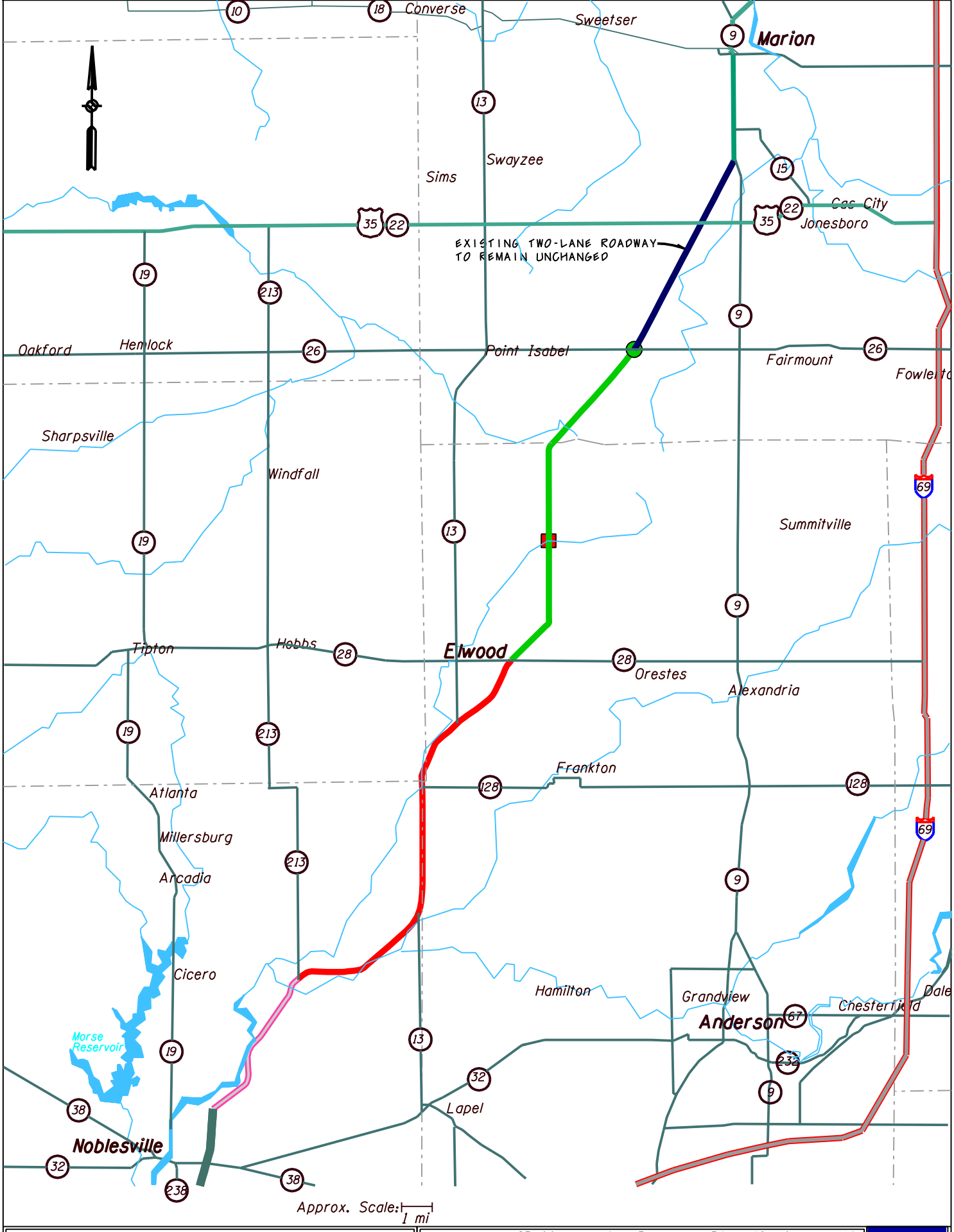

SR 37 EA / Corridor Study

Figure 2.2.6
Alternative No. 6

4-LANE EXPRESSWAY *NON-FREEWAY* FROM NOBLESVILLE TO SR 213, "NO-BUILD" FROM SR 213 TO MARION

- 4-LANE EXPRESSWAY
- 2006 PAVEMENT REHABILITATION
- 2004 PAVEMENT REHABILITATION & SIGN MODERNIZATION
- 2004 FLASHERS MODERNIZATION
- 2004 BRIDGE REHABILITATION & REPAIR

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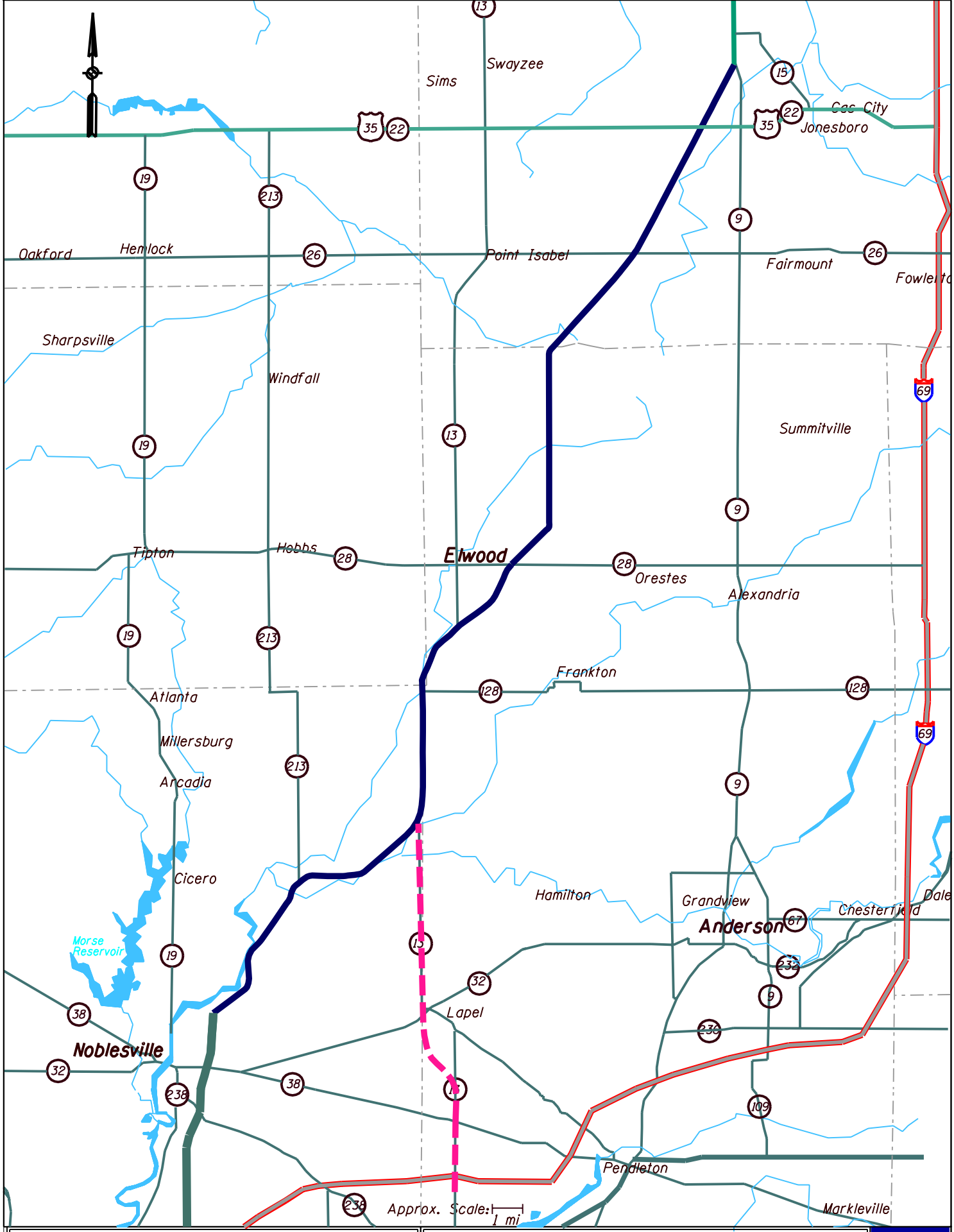

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Figure 2.2.7
Alternative No. 7

SR 37 REALIGNMENT
FROM SR 13 SOUTH TO I-69

PROPOSED ALIGNMENT

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